```
ISIS-II PL/M-86 V2.0 COMPILATION OF MODULE SUBR2
OBJECT MODULE PLACED IN SUBR2.OBJ
COMPILER INVOKED BY:  :F0: SUBR2.PLM DEBUG OPTIMIZE(2) DATE(FEBRUARY 2, 1982) XREF


            $title ('SUBROUTINE MODULE - PART 2')
 1          subr2:
            do;
            $include(:f1:macro.lit)
        =   $nolist
            $INCLUDE (:F1:STRUC.LIT)
        =   $nolist
            $include(:f1:io.ext)
        =   $nolist

            /*

              modified  3/26/81  R. Silberstein
              modified  3/28/81  R. Silberstein
              modified  3/30/81  R. Silberstein

            */

 59   1     outtext: procedure (t) public;
 60   2       dcl t addr,
                 ch based t byte;
 61   2       do while ch <> 0;
 62   3         call write$console(ch);
 63   3         t=t+1;
 64   3       end$while;
 65   2     end outtext;

 66   1     OUTFILENAME: PROCEDURE (PTR);
 67   2       DECLARE PTR ADDRESS, X BASED PTR FILEOSTRUCTURE, I BYTE;
 68   2       CALL WRITE$CONSOLE (X.DISK + 'A');
 69   2       CALL WRITE$CONSOLE (':');
 70   2       DO I = 1 TO 8;
 71   3         IF (X.FCBBLOCK (I) AND 7FH) = SPACE THEN I = 8;
 73   3         ELSE CALL WRITE$CONSOLE (X.FCBBLOCK (I) AND 7FH);
 74   3       END;
 75   2       CALL WRITE$CONSOLE ('.');
 76   2       DO I = 9 TO 11;
 77   3         CALL WRITE$CONSOLE (X.FCBBLOCK (I) AND 7FH);
 78   3       END;
 79   2       CALL SYSTEMRESET;
 80   2     END OUTFILENAME;

 81   1     FILEABORT: PROCEDURE (PTR, TEXTADR) PUBLIC;
 82   2       DECLARE (PTR, TEXTADR) ADDRESS;
 83   2       CALL OUTTEXT (TEXTADR);
 84   2       CALL WRITE$CONSOLE (':');
 85   2       CALL WRITE$CONSOLE (SPACE);
 86   2       CALL OUTFILENAME (PTR);
 87   2     END FILEABORT;

 88   1     fill: procedure (ch,n,pt) public;
```

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 89  2      dcl (ch,n) byte,pt address,buffer based pt byte;
 90  2      DO WHILE (N := N - 1) <> OFFH;
 91  3        buffer=ch;
 92  3        pt = pt + 1;
 93  3       end$while;
 94  2     end fill;

 95  1     digit: procedure(ch) byte public;
 96  2       dcl ch byte;
 97  2       IF CH < '0' THEN RETURN FALSE;
 99  2       return (ch <= '9');
100  2     end digit;

101  1     letter: procedure(ch) byte public;
102  2       dcl ch byte;
103  2       IF CH < 'A' THEN RETURN FALSE;
105  2       return (ch <= 'Z');
106  2     end letter;

107  1     alphanumeric: proc(ch) byte public;
108  2       dcl ch byte;
109  2       if letter(ch) then return true;
111  2       return digit(ch);
112  2     end alphanumeric;

113  1     asciichar: proc (ch) byte public;
114  2       dcl ch byte;
115  2       if ch=cr then return true;
117  2       IF CH = LF THEN RETURN TRUE;
119  2       IF CH < SPACE THEN RETURN FALSE;
121  2       return (ch <= 7eh);
122  2     end asciichar;


123  1     upper: procedure(ch) byte public;
124  2       dcl ch byte;
125  2       if ch >= 61h THEN IF ch <= 7eh then ch=ch-20h;
128  2       return ch;
129  2     end upper;

130  1     equal: procedure(n,s,d) byte public;
131  2       dcl n byte,
               (s,d) address,
               sch based s byte,
               dch based d byte;
132  2       DO WHILE (N := N - 1) <> OFFH;
133  3         IF SCH <> DCH THEN RETURN FALSE;
135  3         S = S + 1;
136  3         D = D + 1;
137  3       END$WHILE;
138  2       return true;
139  2     end equal;


140  1     hexlout: procedure(n,d) public;
141  2       dcl n byte,d addr,
              dest based d (1) byte;
```

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```
142  2      hexdigit: procedure(digit) byte;
143  3        dcl digit byte;
144  3        digit=digit+'0';
145  3        if digit > '9' then digit=digit+7;
147  3        return digit;
148  3      end hexdigit;

149  2      dest(0)=hexdigit(SHR (N, 4));
150  2      dest(1)=hexdigit(n and 0fh);
151  2    end hex1out;

152  1    hex2out: proc (n,d) public;
153  2      dcl n addr,
               d addr;
154  2      call hex1out(HIGH (N),d);
155  2      call hex1out(LOW (N),d+2);
156  2    end hex2out;


157  1    decout: proc (n,d) public;
158  2      dcl
         n       addr,
         d       address,
         dest based d (1) byte,
         (i,space$or$zero,digit) byte,
         divis(5) addr data (10000,1000,100,10,1);

159  2      space$or$zero=space;
160  2      do i=0 to 4;
161  3        if i=4 then space$or$zero='0';
163  3        digit=n/divis(i);
164  3        n=n mod divis(i);
165  3        if digit=0 then$do
167  4          dest(i)=space$or$zero;
168  4        else$do
170  4          dest(i)=digit+'0';
171  4          space$or$zero='0';
172  4        end$if;
173  3      end$do;
174  2    end decout;

175  1    end subr2;
```

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CROSS-REFERENCE LISTING

DEFN	ADDR	SIZE	NAME, ATTRIBUTES, AND REFERENCES
2			ADDR . . . . . LITERALLY 60 67 141 153 158
107	0111H	27	ALPHANUMERIC . . . PROCEDURE BYTE PUBLIC STACK=000AH
113	012CH	42	ASCIICHAR. . . . . PROCEDURE BYTE PUBLIC STACK=0004H
3			BASEREGBIT . . . . LITERALLY
3			BASEREGCOUNT . . . LITERALLY
3			BREGBIT. . . . . LITERALLY
3			BREGCOUNT. . . . . LITERALLY
89	0000H	1	BUFFER . . . . . BYTE BASED(PT) 91
67	0024H	512	BUFFER . . . . . BYTE ARRAY(512) MEMBER(X)
67	0022H	2	BUFPTR . . . . . WORD MEMBER(X)
123	0004H	1	CH . . . . . BYTE PARAMETER AUTOMATIC 124 125 126 127 128
113	0004H	1	CH . . . . . BYTE PARAMETER AUTOMATIC 114 115 117 119 121
60	0000H	1	CH . . . . . BYTE BASED(T) 61 62
88	0008H	1	CH . . . . . BYTE PARAMETER AUTOMATIC 89 91
95	0004H	1	CH . . . . . BYTE PARAMETER AUTOMATIC 96 97 99
107	0004H	1	CH . . . . . BYTE PARAMETER AUTOMATIC 108 109 111
101	0004H	1	CH . . . . . BYTE PARAMETER AUTOMATIC 102 103 105
21	0000H	1	CHAR . . . . . BYTE PARAMETER 22
18	0000H	1	CHAR . . . . . BYTE PARAMETER 19
37	0000H		CLOSEFILE. . . . . PROCEDURE BYTE EXTERNAL(15) STACK=0000H
3			CODEMACROHEAD. . . LITERALLY
24	0000H		CONSTAT. . . . . PROCEDURE BYTE EXTERNAL(10) STACK=0000H
2			CR . . . . . LITERALLY 115
49	0000H		CREATEFILE . . . . PROCEDURE BYTE EXTERNAL(19) STACK=0000H
57	0000H		CRLF . . . . . PROCEDURE EXTERNAL(22) STACK=0000H
140	0004H	2	D. . . . . WORD PARAMETER AUTOMATIC 141 149 150
152	0004H	2	D. . . . . WORD PARAMETER AUTOMATIC 153 154 155
130	0004H	2	D. . . . . WORD PARAMETER AUTOMATIC 131 133 136
157	0004H	2	D. . . . . WORD PARAMETER AUTOMATIC 158 167 170
131	0000H	1	DCH. . . . . BYTE BASED(D) 133
2			DCL. . . . . LITERALLY
157	01FEH	122	DECOUT . . . . . PROCEDURE PUBLIC STACK=0006H
40	0000H		DELETEFILE . . . . PROCEDURE EXTERNAL(16) STACK=0000H
158	0000H	1	DEST . . . . . BYTE BASED(D) ARRAY(1) 167 170
141	0000H	1	DEST . . . . . BYTE BASED(D) ARRAY(1) 149 150
158	0003H	1	DIGIT. . . . . BYTE 163 165 170
95	00DDH	26	DIGIT. . . . . PROCEDURE BYTE PUBLIC STACK=0004H 111
142	0004H	1	DIGIT. . . . . BYTE PARAMETER AUTOMATIC 143 144 145 146 147
67	0000H	1	DISK . . . . . BYTE MEMBER(X) 68
28	0000H	1	DISKNUMBER . . . . BYTE PARAMETER 29
158	0000H	10	DIVIS. . . . . WORD ARRAY(5) DATA 163 164
54	0000H	2	DMAADDRESS . . . . WORD PARAMETER 55
2			ELSEDO . . . . . LITERALLY
13	0000H	2	ENDBUF . . . . . WORD EXTERNAL(5)
2			ENDCASE. . . . . LITERALLY
2			ENDDO. . . . . LITERALLY
2			ENDFOREVER . . . . LITERALLY
2			ENDIF. . . . . LITERALLY
2			ENDMODULE. . . . . LITERALLY

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  2                 ENDOFFILE. . . . .   LITERALLY
  2                 ENDPROC. . . . . .   LITERALLY
  2                 ENDWHILE . . . . .   LITERALLY
130  0170H   45     EQUAL. . . . . .     PROCEDURE BYTE PUBLIC STACK=0008H
  2                 FALSE. . . . . .     LITERALLY       98  104  120  134
 10  0000H    1     FCB. . . . . .       BYTE ARRAY(1) EXTERNAL(2)
 11  0000H    1     FCB16. . . . . .     BYTE ARRAY(1) EXTERNAL(3)
 49  0000H    2     FCBADDRESS . . . .   WORD PARAMETER        50
 31  0000H    2     FCBADDRESS . . . .   WORD PARAMETER        32
 43  0000H    2     FCBADDRESS . . . .   WORD PARAMETER        44
 40  0000H    2     FCBADDRESS . . . .   WORD PARAMETER        41
 37  0000H    2     FCBADDRESS . . . .   WORD PARAMETER        38
 34  0000H    2     FCBADDRESS . . . .   WORD PARAMETER        35
 46  0000H    2     FCBADDRESS . . . .   WORD PARAMETER        47
 67  0001H   33     FCBBLOCK . . . . .   BYTE ARRAY(33) MEMBER(X)       71   73   77
 81  009EH   31     FILEABORT. . . . .   PROCEDURE PUBLIC STACK=0010H
  3                 FILEISTRUCTURE . .   LITERALLY
  3                 FILEOSTRUCTURE . .   LITERALLY       67
 88  00BDH   32     FILL . . . . . .     PROCEDURE PUBLIC STACK=0008H
  2                 FOREVER. . . . . .   LITERALLY
  2                 FORMFEED . . . . .   LITERALLY
  7  0000H    1     FUNC . . . . . .     BYTE PARAMETER        8
  4  0000H    1     FUNC . . . . . .     BYTE PARAMETER        5
140  019DH   38     HEX1OUT. . . . . .   PROCEDURE PUBLIC STACK=000CH       154  155
152  01DDH   33     HEX2OUT. . . . . .   PROCEDURE PUBLIC STACK=0014H
142  01C3H   26     HEXDIGIT . . . . .   PROCEDURE BYTE STACK=0004H         149  150
                    HIGH . . . . . .     BUILTIN       154
158  0001H    1     I. . . . . .         BYTE      160  161  163  164  167  170
 67  0000H    1     I. . . . . .         BYTE       70   71   72   73   76   77
  3                 INDEXREGBIT. . . .   LITERALLY
  3                 INDEXREGCOUNT. . .   LITERALLY
  7  0000H    2     INFO . . . . . .     WORD PARAMETER        8
  4  0000H    2     INFO . . . . . .     WORD PARAMETER        5
  2                 INIT . . . . . .     LITERALLY
 32  0000H         INTERROGATEDISK. .   PROCEDURE BYTE EXTERNAL(20) STACK=0000H
  3                 IREGBIT. . . . . .   LITERALLY
  3                 IREGCOUNT. . . . .   LITERALLY
101  00F7H   26     LETTER . . . . . .   PROCEDURE BYTE PUBLIC STACK=0004H       109
  2                 LF . . . . . .       LITERALLY       117
  2                 LIT. . . . . .       LITERALLY         2    3
                    LOW. . . . . .       BUILTIN       155
  4  0000H         MON1 . . . . . .     PROCEDURE EXTERNAL(0) STACK=0000H
  7  0000H         MON2 . . . . . .     PROCEDURE BYTE EXTERNAL(1) STACK=0000H
157  0006H    2     N. . . . . .         WORD PARAMETER AUTOMATIC      158  163  164
152  0006H    2     N. . . . . .         WORD PARAMETER AUTOMATIC      153  154  155
140  0006H    1     N. . . . . .         BYTE PARAMETER AUTOMATIC      141  149  150
130  0008H    1     N. . . . . .         BYTE PARAMETER AUTOMATIC      131  132
 88  0006H    1     N. . . . . .         BYTE PARAMETER AUTOMATIC       89   90
  3                 NOOVERCOUNT. . . .   LITERALLY
  3                 NOOVERRIDEBIT. . .   LITERALLY
 31  0000H         OPENFILE . . . . .   PROCEDURE BYTE EXTERNAL(13) STACK=0000H
 34  0000H         OPENMOFILE . . . .   PROCEDURE BYTE EXTERNAL(14) STACK=0000H
  3                 OPERANDSTRUC . . .   LITERALLY
 66  0019H  133     OUTFILENAME. . . .   PROCEDURE STACK=0008H          86
 57  0000H   25     OUTTEXT. . . . . .   PROCEDURE PUBLIC STACK=0008H       83
  2                 PROC . . . . . .     LITERALLY       107  113  152  157
 88  0004H    2     PT . . . . . .       WORD PARAMETER AUTOMATIC      89   91   92
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  81  0006H     2  PTR. . . . . .   WORD PARAMETER AUTOMATIC       82   86
  66  0004H     2  PTR. . . . . .   WORD PARAMETER AUTOMATIC       67   68   71   73   77
  16  0000H        READCONSOLE. . .  PROCEDURE BYTE EXTERNAL(7) STACK=0000H
  43  0000H        READRECORD . . .  PROCEDURE BYTE EXTERNAL(17) STACK=0000H
   2               REENT. . . . . .  LITERALLY
 130  0006H     2  S. . . . . . .   WORD PARAMETER AUTOMATIC       131  133  135
 131  0000H     1  SCH. . . . . .   BYTE BASED(S)       133
   3               SEGMBIT. . . . .  LITERALLY
   3               SEGMCOUNT. . . .  LITERALLY
   3               SEGTYPEBIT . . .  LITERALLY
   3               SEGTYPECOUNT . .  LITERALLY
  28  0000H        SELECTDISK . . .  PROCEDURE EXTERNAL(12) STACK=0000H
  54  0000H        SETDMAADDRESS. .  PROCEDURE EXTERNAL(21) STACK=0000H
                   SHR. . . . . .   BUILTIN        149
   2               SPACE. . . . . .  LITERALLY       71   85  119  159
 158  0002H     1  SPACEORZERO. . .  BYTE      159  162  167  171
   2               STRUC. . . . . .  LITERALLY       67
   1  0000H        SUBR2. . . . . .  PROCEDURE STACK=0000H
   3               SYMBOLHEAD . . .  LITERALLY
   3               SYMBOLSTRUC. . .  LITERALLY
  14  0000H        SYSTEMRESET. . .  PROCEDURE EXTERNAL(6) STACK=0000H        79
  59  0004H     2  T. . . . . . .   WORD PARAMETER AUTOMATIC       60   61   62   63
   2               TAB. . . . . .   LITERALLY
  12  0000H     1  TBUFF. . . . . .  BYTE ARRAY(1) EXTERNAL(4)
  81  0004H     2  TEXTADR. . . . .  WORD PARAMETER AUTOMATIC       82   83
   2               THENDO . . . . .  LITERALLY       165
   2               TRUE . . . . . .  LITERALLY       110  116  118  138
   3               TYPEBIT. . . . .  LITERALLY
   3               TYPECOUNT. . . .  LITERALLY
 123  0156H    26  UPPER. . . . . .  PROCEDURE BYTE PUBLIC STACK=0004H
  26  0000H        VERSION. . . . .  PROCEDURE WORD EXTERNAL(11) STACK=0000H
  18  0000H        WRITECONSOLE . .  PROCEDURE EXTERNAL(8) STACK=0000H        62   68   69   73   75   77
                                       84   85
  21  0000H        WRITELIST. . . .  PROCEDURE EXTERNAL(9) STACK=0000H
  46  0000H        WRITERECORD. . .  PROCEDURE BYTE EXTERNAL(18) STACK=0000H
  67  0000H   548  X. . . . . . .   STRUCTURE BASED(PTR)       68   71   73   77
```

MODULE INFORMATION:

```
    CODE AREA SIZE     = 0278H    632D
    CONSTANT AREA SIZE = 000AH     10D
    VARIABLE AREA SIZE = 0004H      4D
    MAXIMUM STACK SIZE = 0014H     20D
    372 LINES READ
    0 PROGRAM ERROR(S)

END OF PL/M-86 COMPILATION
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